

Amendments to the Claims:

1. (Previously Presented) A method for removing a vapor phase contaminant from a contaminated gas stream in a duct, said method comprising:

coating fresh sorbent onto a surface of a sorbent structure positioned inside a gas duct;
passing a contaminated gas stream comprising a vapor-phase contaminant through said gas duct and over said surface of said sorbent structure having said fresh sorbent thereon, without passing said contaminated gas stream through said sorbent structure, so that said vapor phase contaminant is adsorbed by said fresh sorbent until saturated sorbent is produced;

periodically removing said saturated sorbent from said sorbent structure and collecting said saturated sorbent outside of said gas duct; and
repeating said coating with a new quantity of fresh sorbent.

2. (Original) The method of Claim 1 wherein said adsorbing additionally comprises:
injecting said fresh sorbent into said contaminated gas stream prior to said passing.

3. (Previously Presented) The method of Claim 1 wherein said coating is carried out prior to placing said sorbent structure inside said gas duct.

4. (Original) The method of Claim 1 wherein said vapor-phase contaminant comprises at least one substance containing mercury

5. (Currently Amended) An apparatus for removing a vapor phase contaminant from a contaminated gas stream in a duct, said apparatus comprising:

at least one sorbent structure;
a means for coating fresh sorbent onto said sorbent structure;
a means for passing a contaminated gas over said sorbent structure having said fresh sorbent thereon to produce saturated sorbent without passing said contaminated gas stream through said sorbent structure; and
a means for removing and collecting said saturated sorbent.

6. (Previously Presented) A method for removing a vapor-phase contaminant from a gas stream, comprising:

coating a non-porous sorbent structure positioned in a gas duct with a sorbent;
passing a gas stream comprising a vapor-phase contaminant through the gas duct;

contacting the vapor-phase contaminant with the sorbent, thereby adsorbing the vapor-phase contaminant onto the sorbent;

removing the sorbent having the adsorbed vapor-phase contaminant from the gas duct; and

recoating the non-porous sorbent structure with fresh sorbent.

7. (Previously Presented) The method of Claim 6, wherein the coating comprises attracting the sorbent to the non-porous sorbent structure using an attractive force.

8. (Previously Presented) The method of Claim 7, wherein the attracting comprises attracting the sorbent to the non-porous sorbent structure using an attractive force selected from the group consisting of electrostatic attraction, magnetic attraction, gravitational attraction, van der Waals attraction, and combinations thereof.

9. (Previously Presented) The method of Claim 6, wherein the coating comprises magnetically attracting the sorbent to the non-porous sorbent structure.

10. (Previously Presented) The method of Claim 9, wherein the removing comprises demagnetizing the sorbent and the sorbent structure.

11. (Previously Presented) The method of Claim 6, wherein the non-porous sorbent structure is selected from the group consisting of tubes, plates, monoliths, walls, vanes and combinations thereof.

12. (Previously Presented) The method of Claim 6, wherein the vapor-phase contaminant comprises mercury.

13. (Previously Presented) The method of Claim 6, wherein the recoating comprises attracting the fresh sorbent to the non-porous sorbent structure using an attractive force

selected from the group consisting of electrostatic attraction, magnetic attraction, gravitational attraction, van der Waals attraction, and combinations thereof.

14. (Previously Presented) The method of Claim 6, wherein the recoating comprises:

removing the non-porous sorbent structure from the gas duct;
applying the fresh sorbent to the non-porous sorbent structure; and
repositioning the non-porous sorbent structure in the gas duct.

15. (Previously Presented) The method of Claim 6, wherein the recoating comprises recoating the non-porous sorbent structure with the fresh sorbent while the non-porous sorbent structure remains in the gas duct.

16. (Previously Presented) A method for removing a vapor-phase contaminant from a gas stream, comprising:

coating a sorbent structure positioned in a gas duct with a sorbent, wherein the coating comprises magnetically attracting the sorbent to the sorbent structure;
passing a gas stream comprising a vapor-phase contaminant through the gas duct;
contacting the vapor-phase contaminant with the sorbent, thereby adsorbing the vapor-phase contaminant onto the sorbent;
removing the sorbent having the adsorbed vapor-phase contaminant from the gas duct; and
repeating the coating with fresh sorbent.

17. (Previously Presented) An apparatus for removing a vapor-phase contaminant from a gas stream, comprising:

a gas duct;
a magnetized sorbent structure positioned in said gas duct; and
a sorbent attached to said magnetized sorbent structure,
wherein said magnetized sorbent structure is configured to be periodically demagnetized, thereby allowing said sorbent to become detached from said magnetized sorbent structure.

18. (Currently Amended) A method for removing a vapor-phase contaminant from a gas stream, comprising:

passing a gas stream comprising a vapor-phase contaminant through a gas duct having a ~~first-end~~ fluid inlet and a ~~second-end~~ fluid outlet and having a sorbent structure comprising a sorbent disposed within the gas duct between the ~~first-end~~ fluid inlet and the ~~second-end~~ fluid outlet, wherein at least a portion of the gas stream passes from the ~~first-end~~ fluid inlet to the ~~second-end~~ fluid outlet without passing through the sorbent structure;

contacting the vapor-phase contaminant with the sorbent, whereby the vapor phase contaminant is adsorbed by the sorbent to produce saturated sorbent;

periodically removing the saturated sorbent from the sorbent structure; and

coating the sorbent structure with fresh sorbent.

19. (Previously Presented) The method of Claim 18, wherein the sorbent structure is selected from the group consisting of tubes, plates, monoliths, walls, vanes and combinations thereof.

20. (Previously Presented) The method of Claim 18, wherein the vapor-phase contaminant comprises mercury.

21. (Previously Presented) The method of Claim 18, wherein said coating comprises attracting the sorbent to the sorbent structure using an attractive force.

22. (Previously Presented) The method of Claim 21, wherein said attracting comprises attracting the sorbent to the sorbent structure using an attractive force selected from the group consisting of electrostatic attraction, magnetic attraction, gravitational attraction, van der Waals attraction, and combinations thereof.

23. (Previously Presented) The method of Claim 18, wherein said coating comprises magnetically attracting the sorbent to the sorbent structure.

24. (Previously Presented) The method of Claim 23, wherein said periodically removing comprises demagnetizing the sorbent and the sorbent structure.

25. (Currently Amended) The method of Claim 18, wherein said coating comprises:
removing the sorbent structure from the gas duct;
applying the fresh sorbent to the sorbent structure; and
repositioning the ~~non-porous~~ sorbent structure in the gas duct.

26. (Previously Presented) The method of Claim 18, wherein said coating comprises coating the sorbent structure with the fresh sorbent while the sorbent structure remains in the gas duct.

27. (Previously Presented) The method of Claim 26, wherein said coating comprises injecting the fresh sorbent into the gas duct upstream of the sorbent structure.

28. (Currently Amended) An apparatus for removing a vapor-phase contaminant from a gas stream, comprising:
a gas duct having a ~~first-end~~ fluid inlet and a ~~second-end~~ fluid outlet;
a sorbent structure comprising a sorbent disposed within the gas duct between the ~~first-end~~ fluid inlet and the ~~second-end~~ fluid outlet, wherein at least a portion of a gas stream may pass from the ~~first-end~~ fluid inlet to the ~~second-end~~ fluid outlet without passing through the sorbent structure;
means for injecting fresh sorbent upstream of the sorbent structure attached to the gas duct; and
means for periodically removing saturated sorbent from the sorbent structure.